

MISSOURI DEPARTMENT OF CONSERVATION



August/September 2010

# Xplor

kids' adventures in nature

## DIARY OF A BLACK BEAR

LEARN THE BARE TRUTH ABOUT  
MISSOURI'S LARGEST MAMMALS



# CONTENTS

## ON THE COVER



**BLACK BEAR**  
photo by Noppadol Paothong

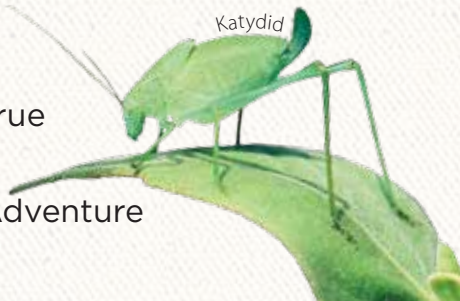


**8 Migration Sensation**  
When you gotta go, you gotta go.

**12 Diary of a Black Bear**  
Follow a year in the life of a Missouri bear.

## DEPARTMENTS

- 1 Photos With Nop & Dave
- 2 You Discover
- 4 Wild Jobs
- 5 Yuck!
- 5 Strange But True
- 6 What Is It?
- 7 My Outdoor Adventure
- 16 Xplor More



# Xplor

**GOVERNOR**  
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Mark Railthel  
Laura Scheuler  
Matt Seek  
David Stonner  
Nichole LeClair Terrill  
Stephanie Thurber  
Alicia Weaver  
Cliff White  
Kipp Woods

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# PHOTOS

with Nop & Dave



In photography—as in life—sometimes you have to try, try again. Just ask photographer David Stonner.

Dave had attempted to capture the wild, wide-open view from the top of Bell Mountain before. He'd been there in winter, but bone-chilling weather had made it tough to operate his camera. Through his lens, the snowless Ozark hills looked bare and ugly.

The following spring, Dave tried again. This time, he decided to photograph a sunrise from the summit. He lugged camping gear up the two-mile trail, then pitched his tent. As the sun sank, he sipped hot cocoa, listened to coyotes howl and watched the stars come out. By the time the moon rose, Dave was snug in his sleeping bag.

His beeping alarm woke Dave well before sunrise. He set up his camera by moonlight and watched the eastern sky change from inky blue to smoky

gray. Tendrils of fog crept from hilltops down into valleys. When the sun peeked over

the distant hills, Dave watched the clouds overhead explode in warm, rosy colors.

One picture wouldn't do justice to this sweeping, sun-kissed vista, so Dave snapped seven. Back at his office, he stitched them together on his computer into a

single, stunning image.

Dave's quest was to capture the spectacular view from atop Bell Mountain. His persistence paid off, don't you think?

To see more of Dave's photos, visit [www.xplormo.org/node/9025](http://www.xplormo.org/node/9025).



## Bell Mountain Sunrise

photo by Dave Stonner

# Y'all discover

With summer winding down, and autumn gearing up, there's plenty to discover in August and September. Here are a few ideas to get you started.



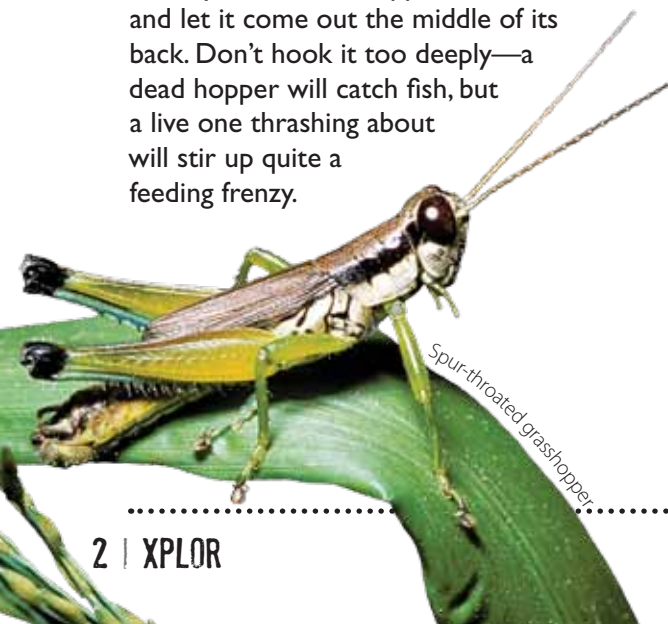
Ruby-throated hummingbird

## Refuel a helicopter.

In mid-August, hummingbirds head south for winter. To fuel their trip, these tiny helicopters must eat half their body weight in insects and nectar each day. You'd have to drink 160 cans of soda to do the same—what a sugar rush! To help hungry hummers refuel, stock a feeder with sugar water. Sitting quietly underneath it is like being in the front row at an air show. One of the little birds might even perch on your finger if you hold really still! To make a hummingbird feeder, visit [www.xplormo.org/node/9026](http://www.xplormo.org/node/9026).

## Hook a hopper.

What's nearly as much fun as catching fish? Catching grasshoppers for bait. A butterfly net will sweep up a ton, but hunting them by hand is a lot more fun. Stash what you catch in a coffee can. When you're ready to fish, poke a hook directly behind the hopper's head and let it come out the middle of its back. Don't hook it too deeply—a dead hopper will catch fish, but a live one thrashing about will stir up quite a feeding frenzy.



Spur-throated grasshopper

## Go on a backyard lion HUNT.

You won't find big cats prowling your backyard, but you might find a mini predator that's just as ferocious.

Ant lions are tiny insect larvae that dig small, cone-shaped pits in the sand. When another insect stumbles into the pit, sliding sand keeps it from climbing out. The ant lion waits at the bottom, ready to snare the unlucky bug in its poison-tipped pincers. There are probably ant lions lurking in your backyard. Search for their pits in fine, dry soil beside houses, under decks or in flowerbeds. For tips on observing ant lions up close, visit [www.xplormo.org/node/9028](http://www.xplormo.org/node/9028).



Ant lion



Carpenter ant





Persimmon

## Pucker UP.

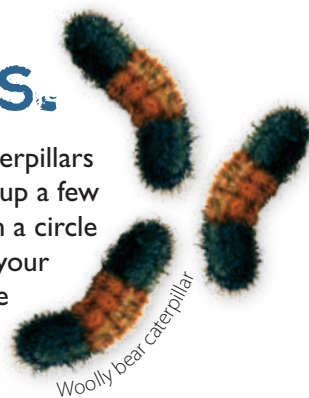
What looks like a squishy orange tomato, tastes like a cross between a pumpkin and a pear, and forecasts the weather as well as a groundhog? It's a persimmon. Persimmons are good to eat—if they're ripe. If they're not, their bitter taste will make you pucker. Some folks claim you can tell how cold the winter will be by splitting open a persimmon seed. If the inside looks like a knife, expect frigid winds that will cut like a blade. A spoon predicts plenty of snow to shovel. And, if you find a fork, plan on a mild winter.

## MAKE A WISH.

If you want to wish on a shooting star, mark your calendar for August 12. Late that night, the Perseid meteor shower will flood the heavens with up to 80 shooting stars an hour. To enjoy the show, find a place away from city lights, spread a blanket and lie on your back facing the northeastern sky. Shooting stars aren't really stars but bits of cosmic crud that crumble off comets. When the debris falls through Earth's atmosphere, it flares up, giving dreamers something to wish upon.

## Race woolly bears.

In September, black-and-brown woolly bear caterpillars show up in full force. Grab your friends, round up a few of the frizzy-haired plant-munchers, and scratch a circle in the dirt about the size of a hula hoop. Place your captive caterpillars in the circle's center, and see which woolly bear wiggles out first.



Woolly bear caterpillar

## Go on a cricket CRAWL.

Head outside on a sultry August night, and you'll be serenaded by the trilling of crickets and the buzzing of katyids. These relatives of grasshoppers sing with their wings, scraping the smooth edge of one wing against the rough surface of another. How many different kinds can you hear? If you can't tell a cricket from a katydid, go to [www.xplormo.org/node/9029](http://www.xplormo.org/node/9029).



Cricket

## Drop some doves.

What's small and gray, flies at 40 miles per hour, and performs mid-air dips and dives that would make a stunt pilot queasy? It's a mourning dove, and there's nothing more challenging than trying to drop a few with a shotgun. Dove season opens September 1, so grab an adult, put on some camouflage and pack plenty of shells. Doves flock to fields with lots of seeds and bare ground—mowed sunflower fields are perfect. For tips, rules and places to hunt, visit [www.xplormo.org/node/19031](http://www.xplormo.org/node/19031).



Mourning dove



Katydid

Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at [www.xplormo.org/xplor/stuff-do/all-events](http://www.xplormo.org/xplor/stuff-do/all-events).

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# WILD JOBS

## Duck Counter

IT'S A BIRD. IT'S A PLANE.  
IT'S ... A WATERFOWL BIOLOGIST?

**N**ever bet against Andy Raedeke in a contest to guess how many jellybeans are in a jar. As a waterfowl biologist, Andy gets plenty of practice counting things, mostly ducks and geese. And, he does it while flying in planes and helicopters at speeds that would get your parents pulled over on the interstate.

On the first pass over a marsh, the pilot flies 500 feet up to avoid scaring the ducks and geese below. In the copilot's seat, Andy has a bird's-eye view and quickly counts all the waterfowl.

For the next pass, the pilot banks and drops low. "It's like riding a roller coaster," Andy says. "You float off the seat and your stomach crawls up your throat."

That's when things get interesting. There are different kinds of waterfowl. As birds burst into the air, Andy estimates how many of each kind he sees.

"We've had a few close calls," Andy says. "Once, we flew through a flock of mallards, and one came within inches of the cockpit." Back at the airport, the pilot pointed out a dent the unlucky duck had left in the plane's tail.

Andy's counts help biologists learn how many waterfowl visit Missouri, when they migrate, and where they stop to eat. The information helps set hunting seasons and lets wetland managers know how much habitat to provide.

Want to try counting ducks and geese from 500 feet up?

Check out [www.xplormo.org/node/9030](http://www.xplormo.org/node/9030).



# **Yuck!**

**YOUR GUIDE  
TO ALL THE  
NASTY,  
STINKY,  
SLIMY AND  
GROSS  
STUFF THAT  
NATURE HAS  
TO OFFER**

A vampire lurks in your backyard, but there's no need to wear garlic. Yellow garden spiders won't suck your blood—unless you're a bug. Garden spiders weave spectacular webs in fields and beside houses. If an insect gets tangled, the spider rushes over, stabs it with its fangs, and pumps in venom that kills the bug and turns its insides to mush. The spider wraps its soon-to-be meal in a silken coffin. Once the bug has liquified, the spider returns to suck out a bug-flavored protein shake.

**YELLOW  
GARDEN  
SPIDER**

# **Strange BUT TRUE**

Beneath the calm surface of Missouri's lakes swims a mindless eating machine. Just like their saltwater cousins, freshwater jellyfish squirt through the water armed with stinging tentacles. But swimmers need not fear. Missouri's jellyfish are about the size of a quarter and pose no threat to people. They use their tentacles to snare tiny aquatic animals called zooplankton. Jellyfish don't appear every year, but watch for them from July to September when water temperatures reach 80 degrees.

Freshwater jellyfish



# WHAT IS?

**DON'T KNOW?**

Jump to Page 16 to find out.



I'm mighty small now, but I'll be almighty someday.

I wear a cap, but not on my head.

Some think I'm bitter. Others think I'm nutty.

Animals may gobble me up or squirrel me away.



# MY OUTDOOR ADVENTURE

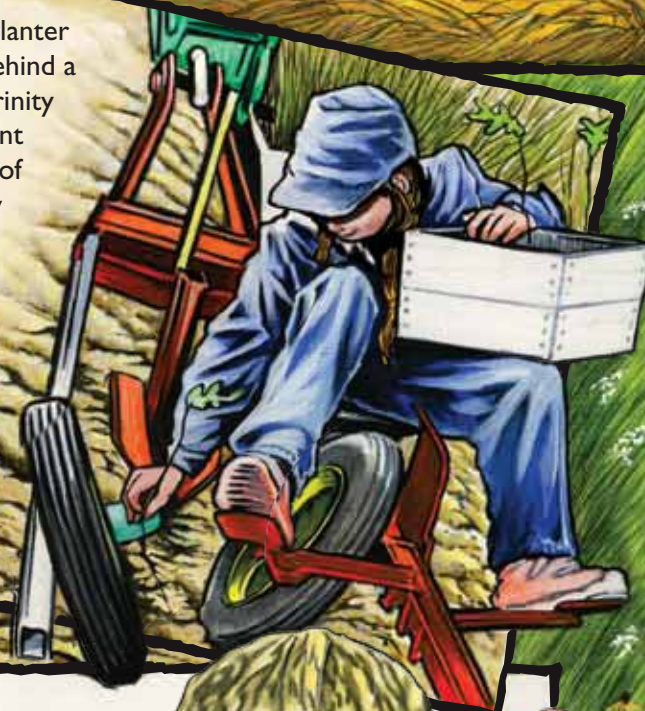
BY TRISTON AND TRINITY  
GILBERT, AGES 12 AND 8

"This place needs help," Triston said on the first visit to his family's new farm. Cattle had grazed the woods bare of plants. Everywhere else, a kind of grass called fescue grew so thick no animal could move through it. Erosion had turned the livestock trails into deep ditches, and the pond leaked like the drain on a bathtub. That spring, the Gilbert family sprang to work to turn their beat-up farm into a paradise for wildlife.

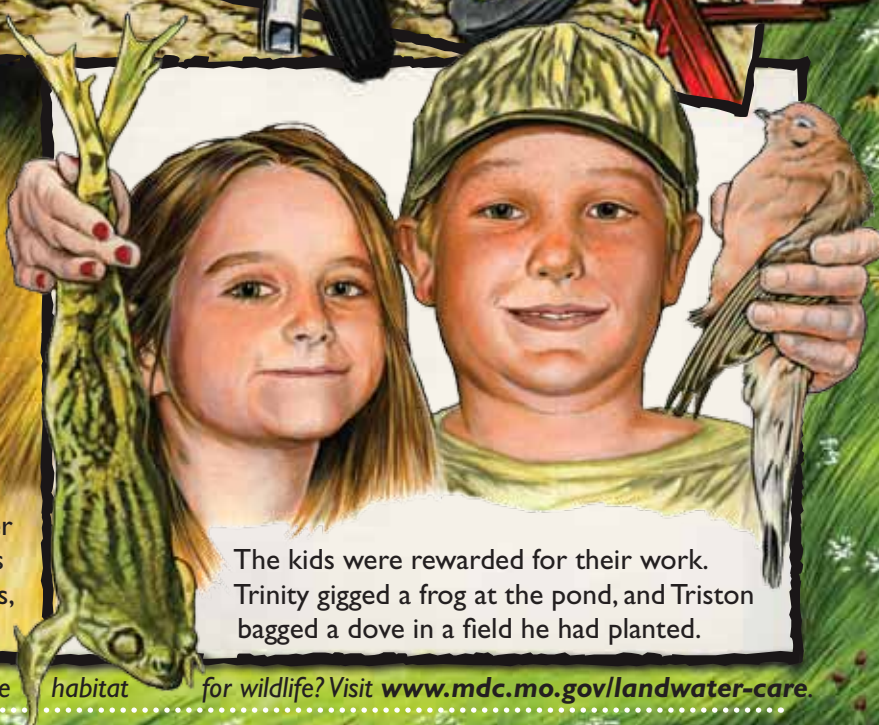
They burned the fields and sprayed herbicide over the fescue. Triston used a **hand seeder** to sow wildlife-friendly grasses and wildflowers in the bare soil. He stuck willow cuttings in the ditches, hoping they would take root to stop the erosion.



Using a tree planter pulled behind a tractor, Trinity helped plant thousands of oak, hickory and pecan seedlings.



The kids picked up trash where the farm's former owner had used a ditch for a dump. By summer's end, their efforts were starting to pay off. Rabbits, deer and other wildlife began to return.



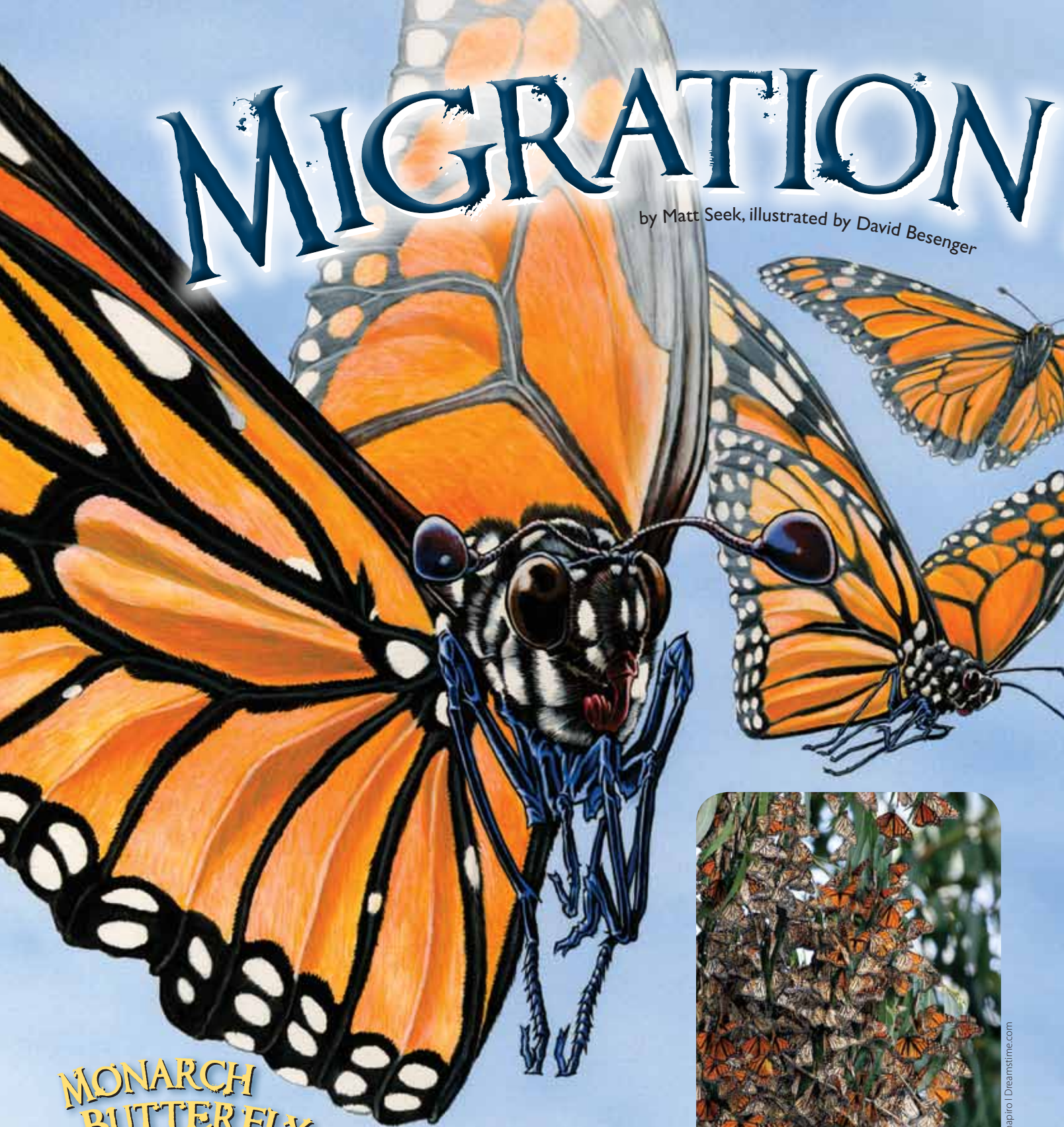
The kids were rewarded for their work. Trinity gigged a frog at the pond, and Triston bagged a dove in a field he had planted.

Want to learn how your family can create habitat for wildlife? Visit [www.mdc.mo.gov/landwater-care](http://www.mdc.mo.gov/landwater-care).



# MIGRATION

by Matt Seek, illustrated by David Besenger



## MONARCH BUTTERFLY

Monarch butterflies migrate to Mexico to escape cold weather. Those from Missouri fly for two months to make the 1,500-mile trip! Flowers fuel their flutter. Most slurp enough nectar to gain weight on the way. For monarchs, fat is where it's at. Once they reach Mexico, they won't eat again for five months.



Millions of monarchs spend winter huddled together in trees high in the mountains of Mexico.

© Charles Shapiro | Dreamstime.com



# SENSATION

Imagine traveling to a place you've never been. You have neither a suitcase nor a map. To get there, you'll have to fly hundreds of miles and pit your wits against predators and storms. Sound scary? Migrating animals do it all the time.

## AMERICAN GOLDEN-PLOVER

What weighs less than a Big Mac and can fly for two days without stopping to eat, drink or sleep? It's an American golden-plover. These little birds migrate 20,000 miles between their summer home in Canada and their winter home in South America. Why do they fly such a long way? Some would say because it's too far to walk, but the real reason is to feed and breed. With lots of food and space, Canada's tundra is perfect for raising babies. But in winter, food becomes scarce and plovers must fly south or starve.



# THE MYSTERY OF MONARCH MIGRATION



No one knows how monarchs find their wintering sites. Adding to this mystery is the fact that monarchs make the trip to Mexico only once. Here's how it works:



## CANADA GOOSE

How do migrating birds find their way? If you're a Canada goose, you follow mom and dad on your first trip south.

After that, geese use landmarks such as rivers, lakes and coastlines to get from Point A to Point B. Other birds, including golden-plovers, use the sun, stars and Earth's magnetic field to navigate. There's another reason geese play follow-the-leader, and it's not so they don't goose one another. By flying in a V, geese in the front block the wind for geese in the back. When the lead goose gets tired, it drops back and lets a different honker be leader.





Thousands of ducks and geese make pit stops at wetlands to rest and refuel during migration.



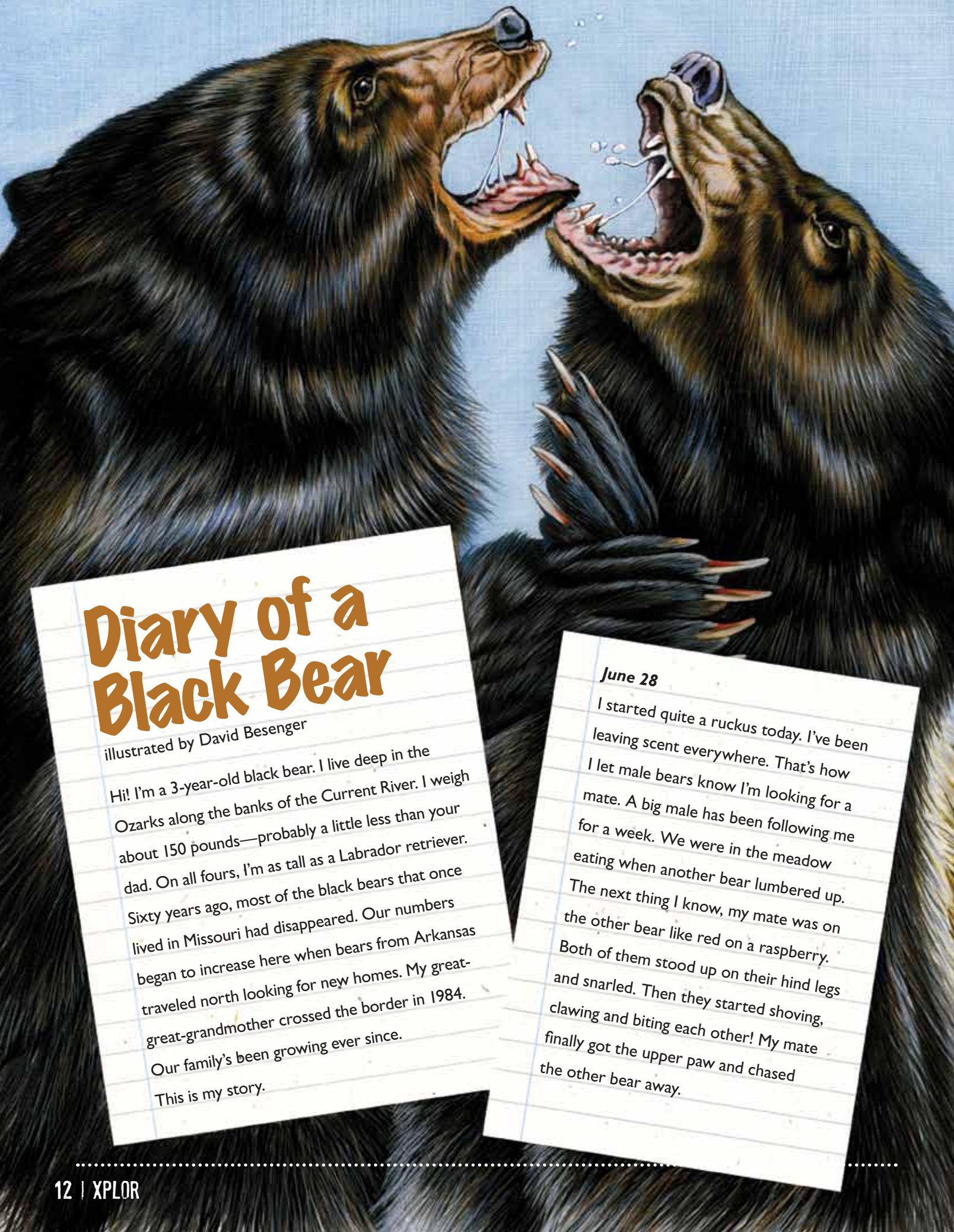
Most of the time, bluebirds handle cold weather just fine, but on really chilly nights several birds may huddle together to keep from turning too blue.



## EASTERN BLUEBIRD

Birds don't fly south to get a good tan. They go because foods they like to eat become scarce when it gets cold. Many migrating birds get eaten by predators, are blown off course by storms or become so tired they can't go on. To avoid these dangers, some birds don't migrate. Most of Missouri's eastern bluebirds don't fly south, they just eat something different when winter strikes. During warmer months, bluebirds feast on insects. When insects disappear, they switch to berries and other fruits. Bluebirds might have to move a few miles, but they don't have to cross the ocean to find a berry bush.



An illustration of two black bears roaring at each other. The bear on the left is shown in profile, facing right, with its mouth wide open, showing its teeth and tongue. The bear on the right is facing left, also with its mouth open, and its right paw is raised towards the other bear's face. The background is a light blue sky with some white clouds.

# Diary of a Black Bear

illustrated by David Besenger

Hi! I'm a 3-year-old black bear. I live deep in the Ozarks along the banks of the Current River. I weigh about 150 pounds—probably a little less than your dad. On all fours, I'm as tall as a Labrador retriever. Sixty years ago, most of the black bears that once lived in Missouri had disappeared. Our numbers began to increase here when bears from Arkansas traveled north looking for new homes. My great-great-grandmother crossed the border in 1984. Our family's been growing ever since. This is my story.

**June 28**

I started quite a ruckus today. I've been leaving scent everywhere. That's how I let male bears know I'm looking for a mate. A big male has been following me for a week. We were in the meadow eating when another bear lumbered up. The next thing I know, my mate was on the other bear like red on a raspberry. Both of them stood up on their hind legs and snarled. Then they started shoving, clawing and biting each other! My mate finally got the upper paw and chased the other bear away.





**September 19**

Soon after the fight, my mate and I went our separate ways. Since then, I've been spending time on more important things—like eating. I stuff my tummy with whatever I find, mostly tons of acorns. Yum! Yesterday, somebody left dog chow on their porch. I was munching happily when a man stormed out of the house yelling. I dashed away, scared to death. How should I have known the food wasn't for me? If he didn't want me to eat it, he shouldn't have left it out there.

**January 24**

Last month, I crawled into my den under a blown-down tree. I've been sleeping there, all alone, ever since. I awoke today to find myself giving birth to two tiny cubs, a boy and a girl. They're cute, but awfully scrawny—no bigger than kittens. I use my legs to make furry, warm walls and tuck my head under my chest to breathe toasty air on them. On warm days, the cubs crawl up to sleep in the dense fur on my back. They drink my milk while I doze. When they nurse, they hum like happy, little motors.



**April 5**

We emerged from our den last week. I haven't eaten (or drank or pooped) in 4 months, but it's hard to find food with two helpless cubs underfoot. Today, I raked leaves beneath a big oak and left the cubs there. I'm glad the tree is a good baby sitter. While I was away nibbling grass and tender leaves, a stray dog tried to attack the cubs. Luckily, they scooted up the tree quick as squirrels and started squealing. I watched from a safe distance until the dog got bored and left.

**July 6**

Today, I ripped open a rotten log and found a nest of carpenter ants. Jackpot! The cubs crowded in and began bawling. Even though I was starving—I usually am—I let them dig in. A big black ant pinched the male cub's tongue. He shook his head and yowled. Someday, he'll learn to eat the little white ants instead. For dessert, we feasted on blackberries. The cubs and I picked the whole bush clean with our nimble lips. I tried to catch a fawn, but it got away. I can run 30 mph, but I don't turn corners well.



**August 1**

The cubs play all day long! They love to dive on tree saplings and ride them to the ground. Sometimes when they flop off, the sapling whips back and smacks my nose. For them, my ears are chew toys. Yesterday, the cubs found a turtle and began batting the poor thing back and forth. I spotted a male bear lumbering toward us. He wanted to eat the cubs! I grunted to send them up a tree, but they didn't hear. They were too busy playing. I swatted one of them, and that got them climbing.

**October 2**

We've been spending our days fattening up for winter, eating every acorn in sight. Soon snow will fall, and food will disappear. I found a good spot for a den under a rocky ledge and started digging to make it big enough for the three of us. The cubs helped rake leaves inside for a bed. We'll sleep through the winter huddled together. In the spring, the cubs will be old enough to strike off on their own. By then, it will be time for me to start a new family.



# XPLOR MOR

## TAG A MONARCH

In mid-September orange-and-black monarch butterflies flutter south to Mexico. You can help biologists track their movements by catching migrating monarchs and putting identification tags on their wings.

Order tags and learn more at [www.monarchwatch.org](http://www.monarchwatch.org).



▲ Don't bother trying to net butterflies that flutter by—monarchs are too quick and wary. Instead, wait for one to land on a flower, sneak up from behind, and quickly sweep your net sideways to pluck it from its perch. Pinch the top of the net to trap the monarch in the deep end.

▲ Fold the monarch's wings up over its back. Hold the butterfly between your thumb and finger along the edge of its forewings. Be gentle but firm. A few scales might come off, but don't worry. Monarchs are tough!

▼ Hold the tag by its edge and stick it over the **mitten-shaped cell** on the monarch's hindwing. Record the tag number and the monarch's sex, then open your fingers and watch it flutter away.



## ANSWER TO WHAT IS IT?

FROM PAGE 6

All mighty oak trees begin life as tiny acorns. Acorns are attached to trees by saucer-shaped caps. Although some acorns taste nutty, most are bitter. Animals don't seem to mind. When

acorns drop in fall, most are quickly gobbled up by turkeys, bears and other wildlife. Squirrels and blue jays bury acorns for winter. Some of these are forgotten and sprout into baby oaks in spring.



# Whose SCAT is that?

Animals leave clues to let us know where they've been. Search the woods carefully and you might find footprints in the dirt, chew marks on a nut, fur snagged on a thorn, and other, well, stuff.

Every animal eats. Every animal gets rid of wastes. Biologists call these droppings scat. If you open your eyes—and plug your nose—you can learn a lot from scat. The scat's size, shape and location are clues to which animal left it behind. Animals that eat meat have

tube-shaped scat. Animals that eat plants pass smaller, pellet-shaped scat. Aquatic animals leave scat near water. Climbing animals leave scat near trees. What's in the scat tells you what the animal has eaten—another important clue.

Think you have the scoop on poop? Use the clues to match each species to its feces. Turn the page upside down to see if you passed.

1



**Raccoon**—I never pass a chance to feast on berries, but I do pass their seeds.



2



**Coyote**—No dog chow for me. I eat what I catch: rabbits, mice and other furry creatures.



3



**Deer**—Beware of raisins in the woods. They might be leftover plants I left behind.



4



**Rabbit**—I nibble plants all day. All the fiber makes my scat look like chocolate puffs.



5



**Otter**—I squirt scaly scat. It must be from all the fish and crayfish I consume.



**Warning!** Never touch scat. Some animals carry deadly diseases that can be passed to you through their droppings.

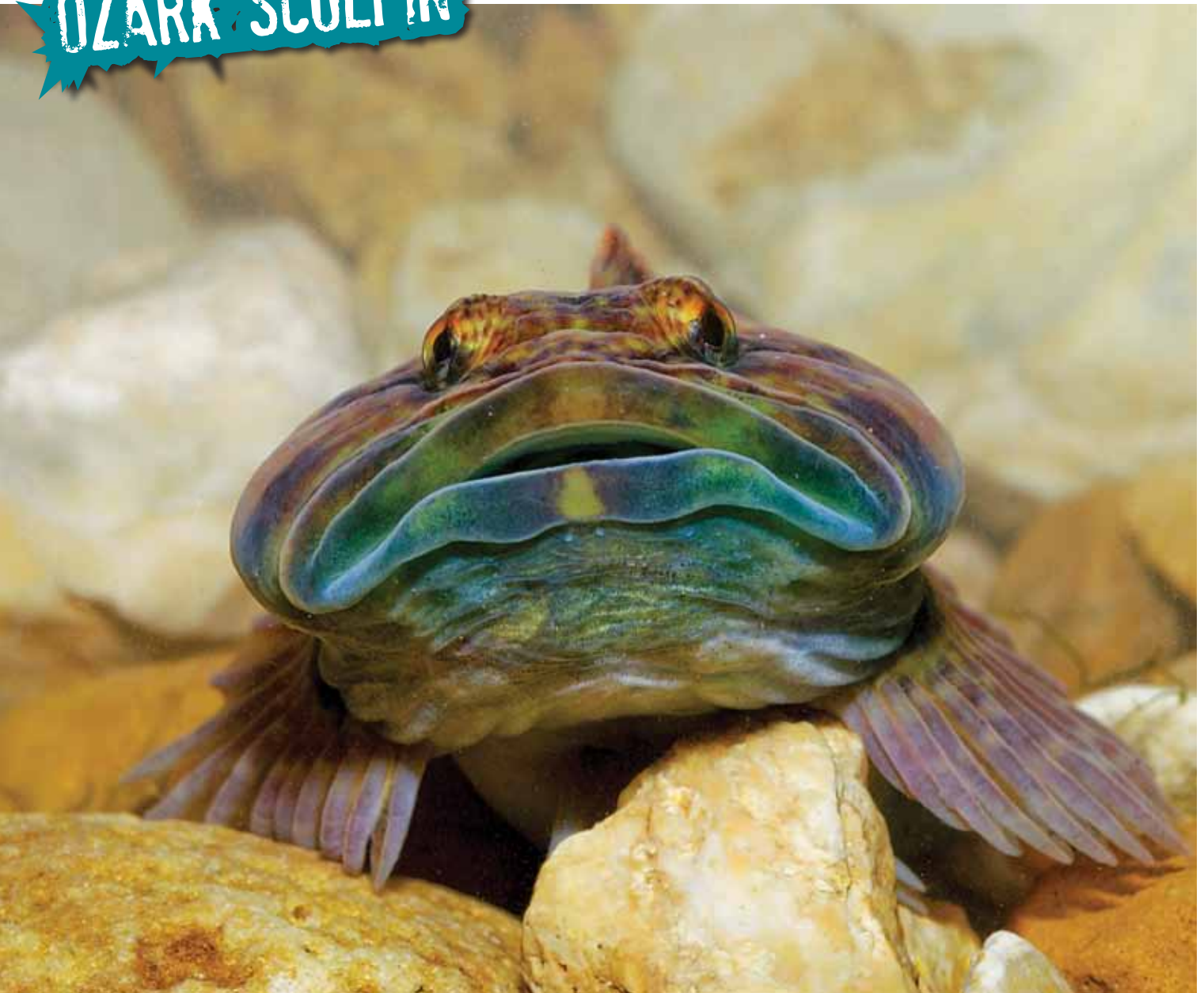


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# OZARK SCULPIN



Why so glum, chum? These little fish are found only in the Ozarks where they hug the bottom of cold, swift streams. To avoid becoming chum for predators, sculpins have a trick up their fins—they change color to blend in with their surroundings.